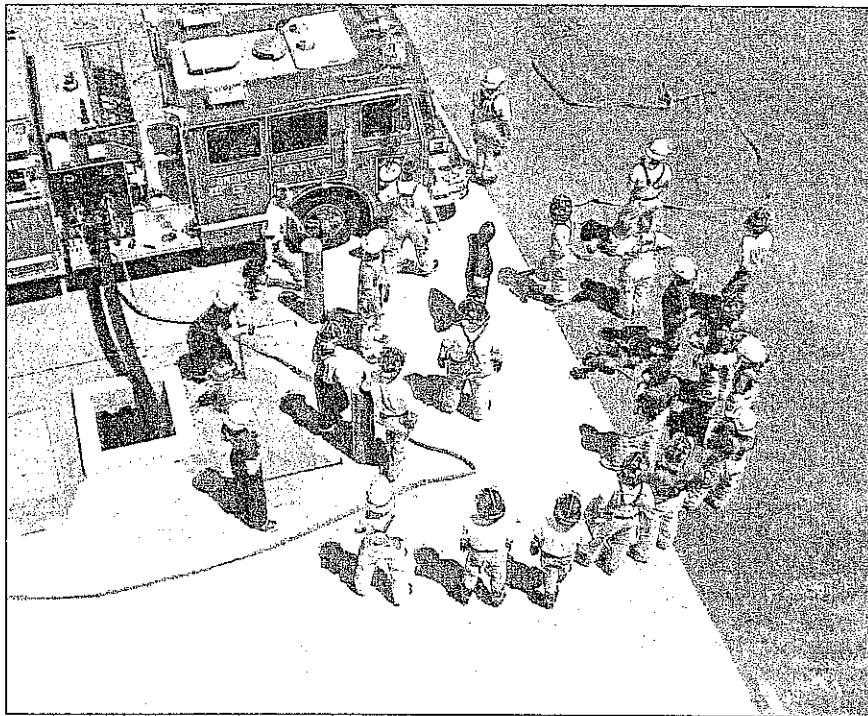


# A new 'level of comfort'

How three fire service organizations came together in Connecticut to train the state's career and volunteer firefighters at a joint academy.



Connecticut Fire Academy

*By Jeffrey J. Morrisette  
Connecticut State Fire  
Administrator*

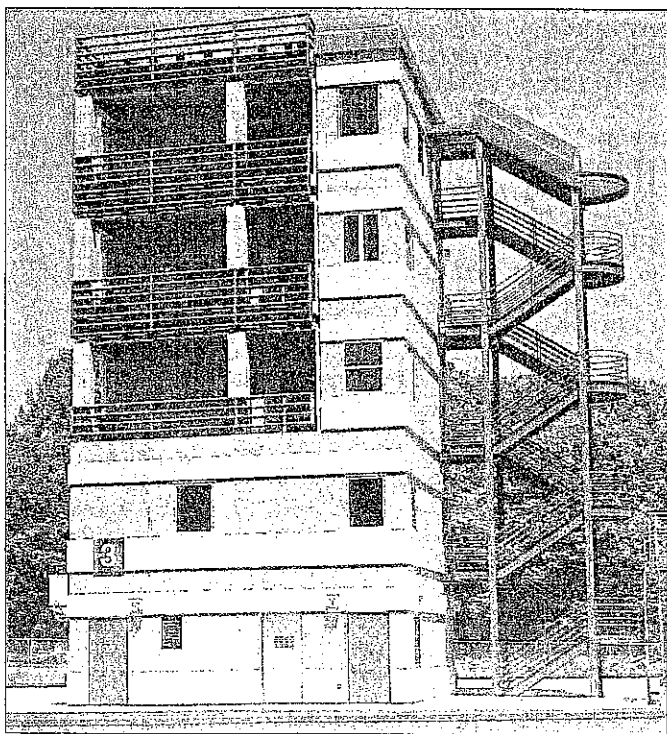
**F**or decades, much of the training in Connecticut's fire service was done by a small cadre of dedicated local instructors, regional fire schools (generally operated by regional fire chiefs or mutual aid associations) and the Connecticut Fire Department Instructors' Association.

Since 1973, there have been numerous national, regional and local attempts to implement the recommendations of the National Commission on Fire Prevention and Control as outlined in its report, "America Burning." In 1975, the Connecticut legislature followed suit by establishing a new state agency, the Commission on Fire Prevention and Control. The commission, composed of representatives from each of the statewide fire service organizations, had a legislative mandate to serve as the focal point for fire service training and education for the state's 30,000 career and volunteer firefighters.

Initially, the Connecticut State Fire School began to develop and deliver programs as well as work toward becoming a support mechanism for local and regional school instructors. Throughout the 1980s, the commission was delivering training programs to an average of 8,000 firefighters per year. What was lacking was a center that would accommodate the fire service's ever-increasing technical requirements.

The commission decided to join with Bradley International Airport Fire and Emergency Services and Hartford County Fire Emergency Plan, both of which were using outdated facilities, in a cooperative effort to plan for a new joint facility. In 1985, the state legislature authorized the creation of a study committee to investigate establishing a fire and hazmat training school.

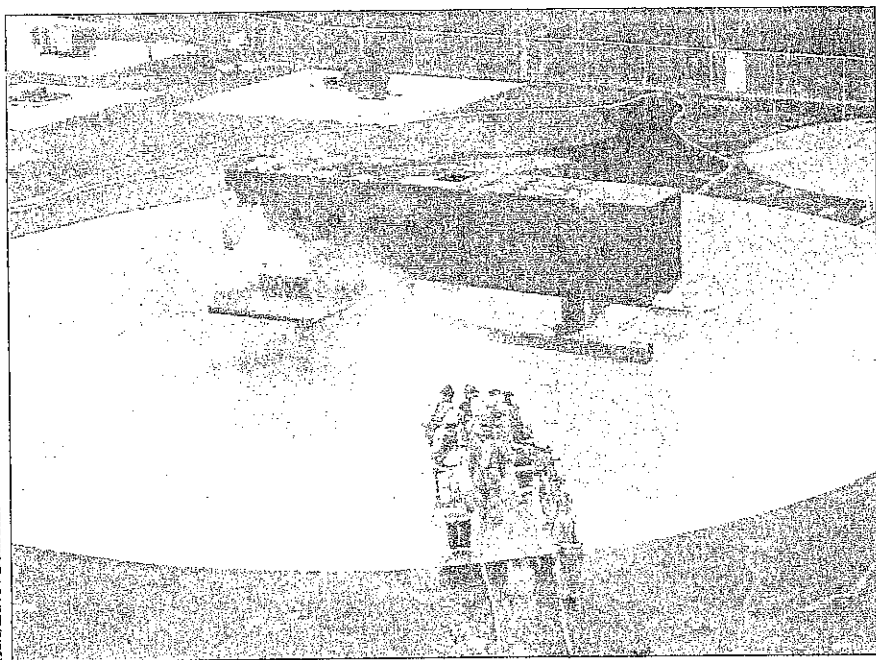
In January 1986, the committee



*Above: Students at the Connecticut Fire Academy learn about pumper operation as they circle a drafting pit.*

*Left: The school's five-story training tower. The school, at Bradley International Airport in north-central Connecticut, opened early last year.*

James P. Brown



*Student firefighters approach a burning airplane prop with hoselines during a fire suppression evolution.*

recommended the construction and operation of a cost-effective self-supporting training facility to serve the needs of Hartford County, Bradley International Airport, the state commission and other emergency responders, particularly those involved in preparing for and mitigating hazmat incidents. The facility had to be comfortable, educationally conducive and technologically advanced in respect to live fire training, both interior and exterior, as well as compliant with all applicable safety and environmental regulations.

That year a public act was passed authorizing \$1 million for planning, design and construction, allowing the architect and engineers to begin the design process. User committees were formed to obtain input. Their members included representatives from the main user groups: business, industry, state fire service organizations and allied state agencies such as the Department of Environmental Protection.

Then state fire administrator George E. Luther and state director of training Wayne E. Sanford used their network of colleagues to provide information and traveled to many of the other state, regional and local academies nationwide. Instead of reinventing the entire facility, they borrowed many of the already excellent ideas being used in fire training and adapted them. For instance, the facility's layout was designed to maximize its small size without sacrificing any necessary training props or scenarios.

The NFPA Professional Qualifica-

tion Standards, which form the basis of most of our programs, also played a big part in the design. We required a facility that would allow us to effectively train and evaluate fire service personnel for certification.

The project still required extensive lobbying to obtain the final approval to authorize bonds for construction. In January 1992, the state authorized the provision of \$16 million through the issuance of bonds for construction, which also covered site utilities, architect fees, construction management fees, art (required by statute), equipment and environmental concerns. Construction began on March 9, 1992 and took about two years, with limited operations beginning in early 1994. About 6,000 fire service and allied professionals have already participated in training at the new facility.

#### **State-of-the-art facilities**

The academy is situated on 16 acres of land in north central Connecticut at Bradley International Airport in Windsor Locks. Due to the state's small size (only 5,008 square miles), land prices are at a premium. By consolidating the needs of the three organizations into one project, the commission, which acts as the fire academy's parent agency, was able to obtain a prime parcel of land adjacent to Bradley's runway from the state transportation department for \$1 per year. Its proximity to the airport and major transportation corridors makes the facility very attractive to our industrial and out-

of-state students. No in-state student has to travel more than 100 miles to get to the academy, even though the facility is not centrally located.

Probably the most unusual feature is the open drill yard with manually controlled propane-fueled fire scenarios. Propane is used in both a liquid and vapor state on many of the props, which include a car, truck, airplane, a Z-shaped burn pit for practicing extinguishment techniques, flammable liquids pit, propane tank and industrial scenarios. Each scenario is controlled from a dedicated operator's station equipped with a "deadman's" safety foot switch, main power switch, prop ignition switch, tank farm safety shutdown and burner element controls.

Another feature of the training grounds is a vehicle extrication area with dedicated electrical power for extrication tools. For realistic, hands-on training in plugging, patching, diking and damming, an MC311 tanker is rolled onto a guard rail with various other "MC" style domes welded onto the vessel at different angles. Water is piped as a liquid and fine mist to each dome as well as to various cracks, punctures and broken flanges throughout. A piping rack with leaks from valves, pipes and catwalk along with a confined-space trainer is also nearby. Both the tanker and piping rack are operated from individual control pedestals.

The training ground's propane storage and distribution system consists of a transport unloading station and an 18,000-gallon storage tank with two liquid pumps and two vaporizers. This redundancy alleviates concerns over a possible shutdown due to equipment failure. Liquid and vapor propane meters have been installed to allow for accurate accounting and billing of fuel to users. Numerous safety controls are provided throughout.

The 4,800-square-foot burn building is two and a half stories high and has eight rooms, four of which are using propane-fueled computer-controlled "fireplaces" made by Symtron Systems Inc. of New Jersey. The four active rooms comprise a living room, kitchen, bedroom and palletized storage area. Other features include an interior manhole to simulate confined-space rescues, metal door between floors two and one (basement), balcony area and a training roof at ground level with replaceable panels. In the future, the available rooms will include a simulated garage car fire, flashovers and addi-

lional industrial scenarios.

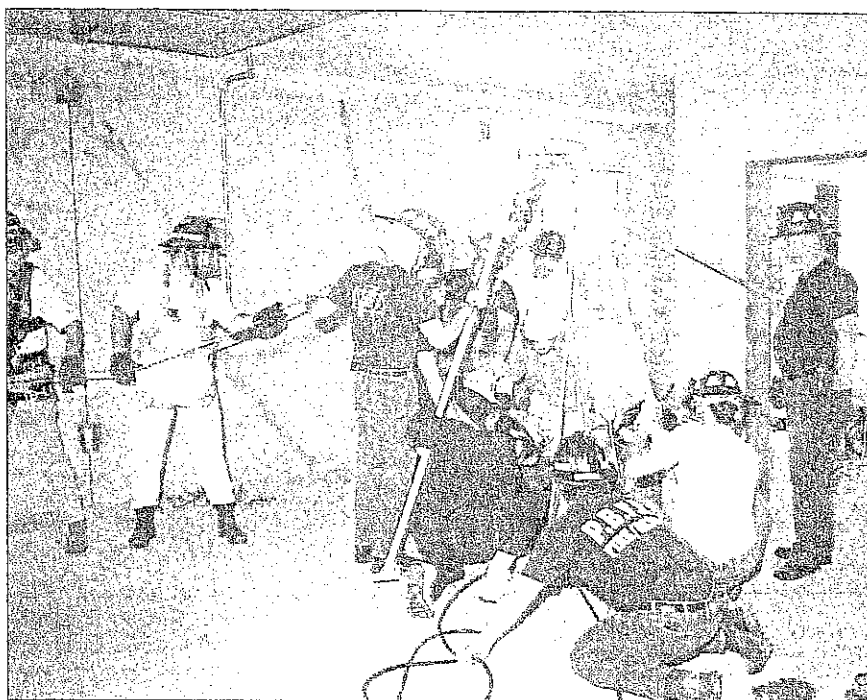
The training tower is five stories high, with the first two floors enclosed and heated and floors three through five open. A sprinkler laboratory is currently being installed on the first floor, and the fifth floor contains a safety control station with full communications and propane emergency shutdown provisions for the drill yard and tank farm. Floors three through five are open and each has a balcony. Other features include a manhole between floors, an emergency fire phone system on each floor to assist in the simulation of high-rise tactics, a standpipe system, sprinkler training heads and windows of various styles.

The crescent-shaped administrative building houses offices for the commission and Hartford County staff. There are also 14 classrooms, three of which open into double rooms wired for satellite and CCTV, a formal conference room, a 96-seat auditorium and a large multi-purpose room/cafeteria. Dormitory rooms with private baths are on the second floor, and the basement houses a fully equipped exercise room and a training pool. A Fiberglass car is currently being fabricated and will be secured to the bottom of the pool for dive rescue training.

The south half of the combination fire station/maintenance garage is within the airport secure area and is home to Bradley Fire Department Station #2. Two Oshkosh crash fire rescue vehicles and a command post, along with administrative offices for the staff, are located here. The maintenance/storage garage is accessible from the training grounds and contains four large bays, a classroom, SCBA compressor and filling station, a "dirty" locker room for the drying and storage of student personal protective equipment, and a clean locker and shower room.

The training ground's water supply consists of a pump house and 250,000-gallon water storage tank, with a fully recirculating system that routes all water used during training through the storm water catch basins to a filtering sedimentation pit. Two 750gpm submersible pumps return the water to the storage tank, and two 750gpm centrifugal pumps supply the 12 training hydrants on site. Overflow within the system is directed through an oil-water separator before discharge to an adjacent wetland area.

Recently the City of Waterbury, Conn., used the Connecticut Fire Academy facilities to conduct its live fire training for 50 new recruits over



Kenneth F. Belliveau (x2)



A hole in the training tower allows firefighters to practice confined-space rescue from both above and below.

four days. The department training division, under Director Robert Massicotte, was able to accomplish 50 evolutions each of car, truck and z-pit fires as well as 12 structural burns, all in compliance with NFPA 1403 and 1500.

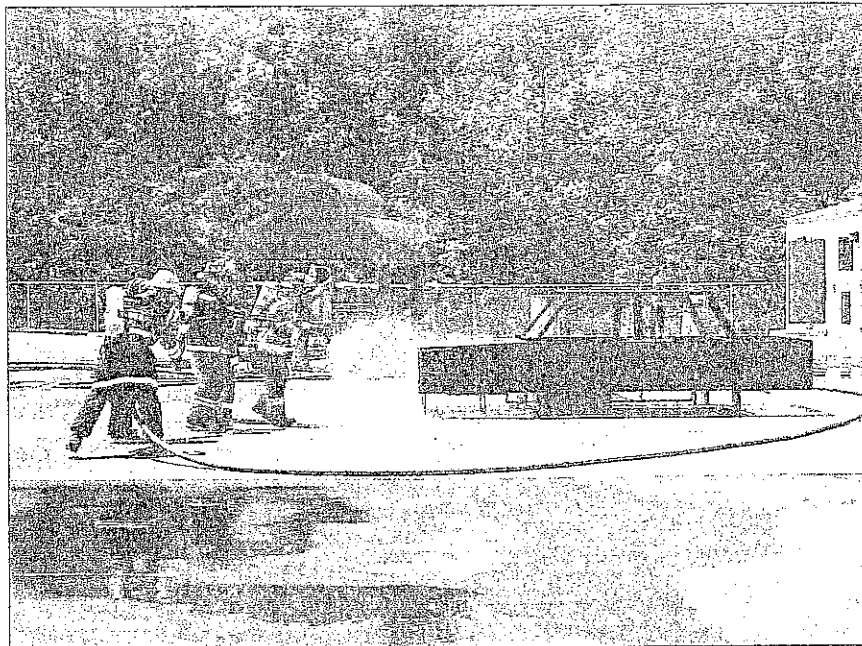
"The academy provided an excellent training experience," Massicotte

says. "The level of smoke obscuration and heat was adequate to properly evaluate the proficiency of our recruits under controlled live fire situations. Also, there was a level of comfort experienced by the instructors, knowing that if an emergency developed it could be addressed quickly without fear of a significant

injury or death. This would not have been possible in a traditional fire training environment."

The Commission on Fire Prevention and Control will continue to offer the same amount of field training to fire departments and industries as before, but programs that are heavily equipment- or resource-driven or considered upper-level technical programs will be run at the academy. A strategic planning process is currently under way to help stay abreast of new technology and educational initiatives to address the emergencies today's fire service is called upon to face. **TC**

Jeffrey J. Morrisette has served as Connecticut State Fire Administrator since 1992. Prior to that, he held the post of director of certification on the Connecticut Commission on Fire Prevention and Control for eight years. Morrisette has a bachelor's degree in technical education and an associate's degree in fire protection and safety from Oklahoma State University; is a member of the NFFA 1000 Technical Committee on Fire Service Professional Qualifications, Accreditation and Certification Systems; and has been a member of the Wethersfield (Conn.) Volunteer Fire Department for 15 years.



*Firefighters spray water on a car fire mock-up.*

Connecticut Fire Academy